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ABSTRACT

The United States Training and Employment Service General Aptitude Test Battery (GATB), first published in 1947, has been included in a continuing program of research to validate the tests against success in many different occupations. The GATB consists of 12 tests which measure nine aptitudes: General Learning Ability; Verbal Aptitude; Numerical Aptitude; Spatial Aptitude; Form Perception; Clerical Perception; Motor Coordination; Finger Dexterity; and Manual Dexterity. The aptitude scores are standard scores with 100 as the average for the general working population, and a standard deviation of 20. Occupational norms are established in terms of minimum qualifying scores for each of the significant aptitude measures which, when combined, predict job performance. Cutting scores are set only for those aptitudes which aid in predicting the performance of the job duties of the experimental sample. The GATB norms described are appropriate only for jobs with content similar to that shown in the job description presented in this report. A description of the validation sample is included. (AG)

ED 066467

TECHNICAL REPORT

ON

STANDARDIZATION OF THE GENERAL APTITUDE TEST BATTERY

FOR

WAITRESS (medical ser.) 2-27.89

B-585 S-305

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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U. S. Employment Service
in Cooperation with
California State Employment Service

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(Revised)

GATB # 2502

STANDARDIZATION OF THE GENERAL APTITUDE TEST BATTERY

FOR

WAITRESS (medical ser.) 2-27.89

B-585 S-305

Summary

The General Aptitude Test Battery, B-1002B, was administered to a final sample of 52 Waitresses 2-27.89 employed at various facilities of the Los Angeles County Hospital System, Los Angeles, California. The criterion consisted of supervisory ratings. On the basis of mean scores, standard deviations, correlations with the criterion, job analysis data and their combined selective efficiency Aptitudes Q-Clerical Perception and M-Manual Dexterity were selected for inclusion in the final test norms.

GATB Norms for Waitress 2-27.89, B-585 S-305

B-1001			B-1002		
Aptitude	Tests	Minimum Acceptable Aptitude Score	Aptitude	Tests	Minimum Acceptable Aptitude Score
Q	CB-1- B	70	Q	Part 1	75
M	CB-1- M CB-1- N	80	M	Part 9 Part 10	80

Effectiveness of Norms

The data in Table IV indicate that only 67 percent of the non-test-selected workers used for this study were good workers; if the workers had been test-selected with the above norms, 77 percent would have been good workers. 33 percent of the non-test-selected workers used for this study were poor workers; if the workers had been test selected with the above norms, only 23 percent would have been poor workers.

TECHNICAL REPORT

I. Purpose

This study was conducted to determine the best combination of aptitudes and minimum scores to be used as norms on the General Aptitude Test Battery for the occupation of Waitress (medical ser.) 2-27.89.

II. Sample

The GATB, B-1002B was administered during the period May 28, 1962 through May 7, 1963 to 62 Waitresses 2-27.89 employed in six facilities of the Los Angeles County Hospital System. The names of the participating hospitals and their location are as follows:

Hospital	Location
Los Angeles County General Hospital	Los Angeles
John Wesley County Hospital	Los Angeles
Olive View Hospital	Sylmar
Rancho Los Amigos Hospital	Downey
Long Beach General Hospital	Long Beach
Harbor General Hospital	Torrance

Ten workers were excluded from the sample because they were unable to understand and follow test instructions. Therefore, the final sample consisted of 52 Waitresses. Applicants for Waitress jobs in the Los Angeles County Hospital System are screened and selected by the Personnel Office of each hospital facility. A written Los Angeles County Civil Service examination, consisting of 30 general knowledge questions, is administered to selected condidates. Candidates must obtain a score of 70% on the written test to qualify for oral interview. Oral interviews are conducted by a member of the Hospital Personnel Department and the Director of Dietetics. The Waitress classification is an entry job for the Los Angeles County Civil Service. No experience is required. Educational stipulations are not stated, however, candidates must possess ability to read and write. All workers in the sample perform comparable work, have completed their probationary period of six months, and are considered experienced workers.

TABLE I

Means (M), Standard Deviations (σ), Ranges, and Pearson Product-Moment Correlations with the Criterion (r) for Age, Education and Experience

N = 52	M	σ	Range	r
Age (years)	44.0	10.9	21-67	.123
Education (years)	11.1	2.0	7-16	-.281
Experience (months)	71.4	67.9	6-308	-.038

III. Job Description

Job Title: Waitress (medical ser.) 2-27.89

Job Summary: Prepares tables for serving meals and performs various tasks in preparing for serving food. Serves food in prompt and efficient manner to professional personnel, student nurses and to patrons in hospital dining room and cafeteria. Obtains foods and supplies to setup and replenish steam table and food serving stations.

Work Performed: Cleans tables in dining rooms and cafeteria with damp cloth. Sets tables with clean linen, silverware, napkins, and glasses. Cleans and fills condiment containers; arranges sugar bowls, and salt and pepper shakers on tables. Washes and arranges fresh fruit in bowls and puts bowls of fruit on tables.

Reads daily menu and calorie chart, provided by Hospital Dietitian, to prepare menu display board. Inserts pre-formed plastic letters and numbers designating meal entree offered, and caloric values of individual food portions, in appropriate grooves of board. Obtains food supplies, such as bread, cereal, fruit, salads, milk, and desserts from dining room refrigerators and food storage cabinets. Pushes food carts containing quantities of prepared hot and cold foods from food preparation and cooking centers in main kitchen to dining room or cafeteria.

Fills steam table containers with prepared foods, using ladles, forks, and other kitchen tools. Places containers of food in appropriate hot or cold compartment of section of steam table. Assembles and portions ingredients, such as lettuce, fruit, tomatoes, and cottage cheese, according to formula, to make individual salads. Portions individual servings of foods such as cereal, eggs, beverages, fruit, pies, cakes and butter, and arranges servings on serving counter and steam table. Prepares hot beverages, such as coffee, tea, and chocolate, according to formula, using coffee urns, drip coffeemakers, teapots, and other utensils. Obtains additional foods and supplies from main kitchen to replenish steam table for food serving stations.

Replenishes supplies of napkins, silverware, dishes, and glassware. Washes cream pitchers, and washes and dries silverware. Stores bread, rolls, milk, butter, and other usable leftover foods in dining room and cafeteria refrigerators and storage cabinets. Cleans and scours sink; cleans and polishes steel metalware equipment, stoves, coffee urns, toasters, and other appliances. Removes old shelf lining paper, and relines work surfaces, counters, and shelves with clean paper.

Serves food to doctors, hospital personnel and to patrons in dining room: Fills glasses with water and ice, and places them on tables. Makes toast, and prepares individual servings of cooked or dry cereal for breakfast meal. Places cereal, milk, and toast on tables. Waits on tables and obtains meal order from seated diner. Answers questions relative to selections offered on menu. Secures food order, either calling order to steam-table attendant, or dishing up main courses from steam-table. Cooks items taking short time to prepare, such as eggs, French toast, and hot cakes, to order. Arranges and garnishes food on dishes to present attractive and appetizing appearance. Places food in front of diners in accepted manner. Draws coffee, milk, and other beverages from coffee urns and dispensers, and serves diners. Periodically observes diners to ascertain and fill any additional requests, and to notice when meal has been completed. Serves second helpings upon request. Inquires of diner if dessert is desired, and obtains and serves desserts. Removes dirty dishes from tables and stacks them in bus pans. Cleans and resets tables. Receives and verifies meal card presented by doctors, student nurses, and other authorized hospital personnel against authorization card on file. As required, collects amount due from patrons, and makes change. Prepares simple written report of number of meals served, authorized personnel served, and amount of money collected daily. Maintains work station and dining rooms in clean and orderly condition.

Serves food to employees and patrons in hospital cafeteria: Fills orders, as they are called, and serves food from steam-table to patrons, waitresses, student nurses, and other authorized hospital personnel. Carves and serves meats, ladles soups, portions vegetables and other prepared foods, using knives, serving spoons, and other kitchen tools. Serves salads, appetizers, and desserts. Draws coffee. Arranges food on dishes to present an appetizing appearance. Cooks eggs, French toast, and hot cakes to order. Makes toast, and prepares simple sandwiches. Clears steam-table. Removes containers of left-over foods from steam-table, and returns unused foods to main kitchen. Opens exhaust valves in recessed compartments of steam-table to empty water. Washes, scours, and polishes steam-table and steel metalware equipment, using soap, water, metal polish, brushes, and cloth. Removes dirty dishes from tables, and cleans and wipes tables and chairs. Scrapes and sorts dishes, glassware, and silverware, and stacks them in bus pans. Checks meal cards presented by student nurses and other authorized hospital personnel against authorization card on file. As required, collects amounts due from patrons, and makes change. Prepares written report of meals served, authorized personnel served, and amount of money collected daily.

IV. Experimental Battery

All the tests of the GATB, B-1002B, were administered to the sample group.

V. Criterion

The criterion data were collected in June 1963 and consisted of two sets of ratings made by the first-line supervisor on USES Form SP-21, "Descriptive Rating Scale." A period of at least two weeks elapsed between the first and second ratings. The rating scale consisted of nine items covering different aspects of job performance, with five alternatives for each item. Weights of one through five, indicating the degree of job proficiency attained, were assigned to the alternatives. A reliability coefficient of .85 was obtained for the criterion. Therefore, the two sets of ratings were combined, resulting in a distribution of final criterion scores of 38-78, with a mean of 59.7 and a standard deviation of 10.6.

VI. Qualitative and Quantitative Analyses

A. Qualitative Analysis

On the basis of the job analysis data, the following aptitudes were rated "important" for success in this occupation:

Intelligence (G) - required to understand and follow written and oral instructions pertaining to food portioning, food formulas and meal schedules; to understand and follow rules of sanitation and safety measures.

Clerical Aptitude (Q) - required to follow daily menu and calorie charts and to set up menu display boards.

Finger Dexterity (F) - required to work rapidly with hands and fingers in portioning and serving food.

Manual Dexterity (M) - required to handle and manipulate foods, trays, carts, supplies, dishes, kitchen utensils, and table linens and settings; to fill steam table containers with prepared foods, using ladles, forks, and other kitchen tools; to assemble and portion ingredients for individual salads and to arrange individual servings of salads, fruit, beverages, bread, rolls, and other foods on serving counter or steam table.

B. Quantitative Analysis:

TABLE II

Means (M), Standard Deviations (σ), and Pearson Product-Moment Correlations with the Criterion (r) for the Aptitudes of the GATB; N = 52

Aptitudes	M	σ	r
G-Intelligence	80.4	14.0	.206
V-Verbal Aptitude	87.4	14.1	.216
N-Numerical Aptitude	78.2	15.8	.101
S-Spatial Aptitude	85.3	14.3	.149
P-Form Perception	83.5	15.0	.253
Q-Clerical Perception	91.5	14.3	.152
K-Motor Coordination	91.8	15.7	.288*
F-Finger Dexterity	92.1	15.4	.209
M-Manual Dexterity	89.8	16.6	.208

*Significant at the .05 level

C. Selection of Test Norms:

TABLE III

Summary of Qualitative and Quantitative Data

Type of Evidence	Aptitudes								
	G	V	N	S	P	Q	K	F	M
Job Analysis Data									
Important	X					X		X	X
Irrelevant									
Relatively High Mean						X	X		X
Relatively Low Sigma	X	X		X		X			
Significant Correlation with Criterion							X		
Aptitudes to be Considered for Trial Norms	G					Q	K		M

Trial norms consisting of various combinations of Aptitudes G, Q, K and M with appropriate cutting scores were evaluated against the criterion by means of the Phi Coefficient technique. A comparison of the results showed that B-1002 norms consisting of Q-75 and M-80 had the best selective efficiency.

VII. Validity of Norms

The validity of the norms was determined by computing a Phi Coefficient between the test norms and the criterion and applying the Chi Square test. The criterion was dichotomized by placing 33 percent of the sample in the low criterion group because this percent was considered to be the unsatisfactory or marginal workers.

Table IV shows the relationship between test norms consisting of Aptitudes Q and M with critical scores of 75 and 80 respectively, and the dichotomized criterion for Waitress 2-27.89. Workers in the high criterion group have been designated as "good workers" and those in the low criterion group as "poor workers."

TABLE IV

Validity of Test Norms for Waitress 2-27.89
(Q-75, M-80)

N = 52	Non-Qualifying Test Scores	Qualifying Test Scores	Total
Good Workers	8	27	35
Poor Workers	9	8	17
Total	17	35	52

Phi Coefficient = .301
χ^2 = 4.732
P/2 < .025

The data in the above table indicate a significant relationship between the test norms and the criterion for the sample.

VIII. Conclusions

On the basis of the results of this study, Aptitudes Q and M with minimum scores of 75 and 80, respectively, have been established as B-1002 norms for Waitress 2-27.89. The equivalent B-1001 norms consist of Q-70 and M-80.

IX. Determination of Occupational Aptitude Pattern

The data for this study did not meet the requirements for incorporating the occupation studied into the January 1962 edition of Section II of the Guide to the Use of the General Aptitude Test Battery. The data for this sample will be considered for future groupings of occupations in the development of new occupational aptitude patterns.